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LESSONS OF GLOBAL EXPERIENCE AND EUROPEAN ROAD TRANSPORT - INFRASTRUCTURE INVESTMENT AND PRICING METHODS

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Abstract

The financial risks of investment in infrastructure are important investment projects of this kind. Values are very large amounts to invest may be of little phase and the amounts are invested before the first earnings to be seen. Furthermore, traffic (and hence incomes) grow naturally over time, and lower depreciation rates. On the other hand, revenue projections are very difficult. It is difficult to predict the interest that it will pursue new infrastructure. It is almost impossible to predict the optimal level of payment can be accepted by the user. To optimize this payment is required a departure from the economic theory of maximization of surplus, to incorporate criteria psychological perception of global supply and road tax that a user has. For large facilities for traffic, state involvement is essential. Direct financial return is often weak and negative implications for the community are often important.

Keywords

- Farmer
- Public Power
- Socio-economic balance
- Pricing methods
- Frequency of use of paper
- Charging classical
- Acceptability of tax

Introduction

Under the generic name of "roads" French experts, for example, discusses three major categories of infrastructure: roads and highways of the plains, urban road service, road art works (bridges and tunnels). We infer from this that the road infrastructure respond above all to meet community needs. The road network is essential to the existence of a country, be it to ensure national unity, economic development and mobility of citizens. In fact, no society is better off road type communication paths (trails, roads, streets, highways). To build, maintain and provide a road system is an essential and natural prerogative of the State to eliminate investment risk. Another key feature is that the road service operation (transportation) is provided by the user. The role of public power or operator is not only to provide infrastructure and service infrastructure itself is provided by the user, unlike other sectors where the number of participants to provide greater service. For example, rail and urban transport, in addition the operator is found (The term "holder" refers to the entity which manages and maintains the road and collect any fees. This does not refer to the provision of transport services), even the manufacturer (water, electricity, etc..). Services associated infrastructure such as transport in the car or truck freight are final services. The final product is declined transport as many forms as are many users, each with different characteristics;

Chapter I - Global experience and european

French experience shows that long-term investments are risky, the best possible methods of reducing risk and cost of financing the projects are rehabilitation of the financial equilibrium

clauses. Example is the project of consistency that sets Broad Marseilles on travel arrangements and 2015 and aims to transport systems. French tradition states, such an experience to remember and respect the delegation of management of public transport. Public transport infrastructure are generally financially profitable, but bring socio-economic gains to society, which justifies the participation of major political power in proportion. Important in this area is the size of operation.

The approach of "transport system" is generally preferred to be promoted, the operator is best placed to define the functional specifications of systems and infrastructure. Whether it's urban system as the trams, on projects that integrated high-speed line, or operation of railway lines in an effort investment success depends on good definition of service needs by the authorities and the public prosecution service quality. The operator must provide solutions (investment, mining, commercial service, ancillary services) necessary to achieve the objectives. Often it is necessary for government to participate in the financing or operation of infrastructure to enable the operator to achieve the required profitability. This participation encourages the operator to optimize performance. The main role of power is, therefore, adjust the system to ensure that public service is optimal.

Special attention is given revenue analysis in the road (for real tax), socio-economic and financial balance, charging methods, political acceptability of the tax and imposition of a fee acceptable. Revenues in the road (where the real tax) are obtained in the following ways: subsidies from the public authority, fees paid by users (motorists and heavy traffic). It is noted that only part of the client population. The other side benefit indirectly from work, without paying tax, although the overall streamlining of the network generated by the new work is beneficial to all workers (motorists or not). When put into question the socio-economic and financial balance and charging methods, it takes into account the profitability of transport infrastructure works. First, this tax is collected during the difficult work because they induce changes in lifestyle and the functioning of the country or city is slowly set in for a long time and are difficult to isolate the whole development of the country or municipality. We can say that profit is at least equal to the cumulative update that customers are willing to pay to use the work.

This simplistic view is due to four causes:

- a) created additional benefits generated by improving circulation;
- b) economic surplus created users far exceeds the use tax;
- c) alteration of land in the fluidity of traffic;
- d) alteration of land which are easily accessible (for low access) due to construction work;

It is difficult to estimate the contribution of these four cases profitable (in terms of value creation for private micro) and the amount of time spent on transport (from which we infer the number of hours saved due to construction work).

Chapter II – Pricing experience

Regarding pricing, we present three methods known to date, namely: a) charging to the maximum revenue - leading to a price indicated, and possible overcharging peak periods, b) socio-economic optimal pricing - resulting in charging a lower level, and included low income but a much higher rate, although what is often thought to be optimal socio-economic pricing is, in fact, optimum financial returns and that the maximum corresponds to a much reduced rate some traffic patterns, and c) pricing subject to certain socio-economic income - lower income goes on to broaden the customer maximum revenue potential with apparently less important. The choice between these methods is entirely political. It is, in fact, to decide the allocation of revenues between taxpayers and future clients of the paper, in which authorities must have the best information possible about customer behavior. As regards political acceptability of the tax, we consider, first, the analysis of road-specific parameters in a given context, namely:

a) frequency of use of the work - Having regard to the toll, the potential client will assess the cost of that service is offered to him - the culture of "Western", most families now thinking in terms of a "Monthly Budget" and for some major expenses, in terms of an "annual budget", where purchases and taxes related to annual budget car insurance, housing, food, fuel consumption rather keep the monthly budget and are compared with their monthly salary, for example, often paid a fee, such Urban Type duty as a "string", to be paid for the journey between home and work, will be immediately assessed and compared with the monthly cost and power savings income family, where tolls if it is rarely used, is different (tax is included in the expenditure type holidays, travel for family reasons, etc..) estimation of acceptability is usually related to the frequency of use of paper for a general tax or entering the area where a belt-type taxes, distribution the work areas and housing is such that the majority of the inhabitants of entire sectors of the city pay for the journey home-service fee, plus travel weekend and evening exits, taking intercity highways calculations, we at lower frequencies and to be taken into account as an annual test, for someone who has a country house for holidays and weekends during the summer sites, where you can easily reach the highway, road number may be made annually be much lower than those at home to work;

b) the degree of obligation of duty - is a complex parameter that reflects the image of the degree of choice that it is a person who moves to pay tax or not, as you know, pay insurance and tax for vignette has become mandatory for owners automobile, when public money (from taxes) are invested in the execution of a construction fee and not a judicial construction or repair free, possibly with a less than high standard, there is certainly a degree of obligation imposed by power public, especially since alternative routes or modes of travel are less attractive. The working parameters have also made the following clarifications: first, there are four types of infrastructure (works) - whose use is common and compulsory use of which is frequent but low-binding, with rare use by families who not be returned to duty for which there is a modest alternative or free, with rare use, but mandatory (compulsory attached to such as car tax), secondly it is possible that in future, very low pricing to increase, as at the same time, frequent guest subscriptions offered to alleviate the effect of this increase, these subscriptions, frequency of use, are designed to segment customers and maximize economic surplus for the whole community through maximum use of paper (single pass, subscription number fixed crossings, monthly, quarterly or monthly subscription). Pricing is based on classical models of traffic, accounting for peak operation.

Should be sought in this case, an optimal financial charges are adjusted according to the availability of pay alleged to users. The rate is calculated by assessing the amount that a person who has to choose between two routes or two modes, is willing to pay to save time. It is very dependent on welfare and livelihood of families, is a marginal size which requires decision makers to have a detailed, accurate and documented the lifestyles of that population (which normally lives in the vicinity of the work) - that, because judgments based on average values are too crude to serve as support an assessment of traffic and revenue and is likely to arouse negative political reaction from those with low incomes (which may be helped by returning a portion of the subscription cost by industry). Decision optimal taxation is that, if there is a alternative transportation, good quality, it will be possible to keep prices high, if not, prices have to be well below those derived from the model;

c) acceptability of the local culture that is involved in tax policy - is the feeling that you must pay something in addition to normal taxes, is a key psychological factor that varies from one country to another and even from one area to another. For Norwegians, for example, a ferry crossing to go from one island to another is commonplace. If the ferry is replaced with a bridge at the same price is right. Replacing a bridge does not change the Base hold-down payment requirement: it is already in users' culture. Of course, prices have to follow the inflation rate, otherwise the service would be undervalued, a situation difficult to correct. In France and Italy, for example, half a century, to travel on intercity highways, the fee charged.

Motorists have understood and agreed that it is better to pay a fee and may be used on a highway routes longer than to settle a busy highway. This is not the case in other European countries which benefit from better quality infrastructure. The traffic on highways near cities in those countries remained free until now. Peripherals, poor by definition, can not pay "to go to work, you already paid during transport. They think the principle of "compensation". Taxes are usually used for the payment infrastructure, the use of "should normally" be free for that service to the building is considered as already paid through taxes. If a charge is required, it must be something to balance the situation. That something may consist, for example, in a rush to work or anything recognized, understood and accepted by the population. Oslo Municipality conducted surveys to determine public preferences for some years before a decision to build the belt and it continues to undertake surveys to determine public satisfaction surveys whose results are made public. One of the main issues is the extent to which people know the utilization of tax. A special case occurs when the degree of binding increases as a result of deliberate actions previously free road service. This occurs not only in urban areas, but the subject is delicate, because that part of the population does not use the new building, paying taxes, and the duration of the route is increased, it creates the occasion of discontent. The disappearance of free channels, an urban area does not pose the same problems, if the user that the taxpayer understands that the capacity reduction is closely linked to an advantage not matter (urban-related work of the tram, pedestrian zones). But things are not the same when a capacity reduction is done only way to increase traffic on the highway payment without compensation of urban nature: the public's reaction will be directly related to the tax rate required and the level of living standards in question.

When discussing the appearance of creating an acceptable fee, whatever the direction of guidelines in this regard, there are three unknowns, namely: how will the public react to this pricing scale works and, how they react to those who have the power to handle the unexpected decision that is the public reaction and how to communicate with the public so that tax will be understood and accepted. A reasonable approach is to combine all modes of travel in a travel plan (urban, for example) would benefit from a broad consensus among the population and whose funding does not require excessive effort. The principle of tax shall, in doing so, three key benefits: reducing public debt and balancing budgets, creating an economic surplus changes in income and pay money to the customer service and not the taxpayer, which justifies the choice of economic approach to logic.

Otherwise, damage the image of a consistent funding sources with optics not only ensuring a sustainable city and the center part of the movement of vehicles, but with a strong redistributive effect, from businesses to families and rich families to the least rich, because it monitors the creation of economic value to reduce taxes. Principles used to estimate the acceptability of duty are: if customers are rewarded by their company for part of the tax, become less sensitive to price, if a work capacity without additional toll-free to reduce the free channels is well accepted (it is an additional supply they use and who wants to can), if a paper took charge of public subsidies, tariffs should be low, since otherwise the low-income taxpayer, who rarely use the work will have the impression "that he paid for the wealthy" territorial responsibility of the community that pays the subsidy must be large enough to accommodate most clients work; order to increase the rate should be closer to that of everyday consumer objects (buying a newspaper, a refreshing, etc..) - the tax district may be constructed such that they encompass and poorest neighborhoods, which means a job in urban areas is primarily to guarantee a certain time to travel, conduct likely to change city and not only gain time, a transport operation is not dissociated from an urban operation. Will global and shared by everyone to beautify the city tax is acceptable in urban areas.

The road is a field where the two activities can benefit the construction and / or maintenance. Modes of financing, user (fee) or indirect funding (by state) involves two aspects. The first method of financing is more or less frequently depending on traffic. The second way is more or less risky for the operator. Responsibility lies with the public authority to conduct time payment infrastructure. Solidarity manufacturer - holder (and thus appeal to a single global

manufacturer) is essential to limit the risk of additional cost and delays. The tax revenue is very high for real. It consists of a traffic hazard and a risk of overall price level in terms of elasticity of the price / demand. Political and social acceptability of pricing policy determines the tax levy, and the price should take into account the frequency of use and degree of obligation to the user. Public Power and the operator must do everything to be understood and accepted the importance of the tax, marketing and training policies tailored and sustainable.

Conclusions

To improve the activity of Romanian road transport have found it useful to show the world and European experiences in the field of study which useful lessons can be drawn. We are not just for copying or taking them due to the concrete conditions of our country, but certain aspects can be adapted creatively. Romania has felt the full consequences of uncritical acquisition strategies developed by others in other circumstances. International comparisons are useful when account is taken with caution due to both their parts, namely comparisons over time and space comparisons. Some items may be useful for the objectives that Romania has in common with other countries, especially concerning European integration objectives, and that certain processes are ongoing in Romania and other countries.

Bibliography

C. Marmuse, Les Aides a la decision, Nathan, 1988.

D. Penaut, Mise enplace d'un concept de gestion Kauban dans un atelier flexible, Revue Francaise de Gestion, november-december, 1988

F. Aftalion, C. Viallet, Theorie du postefenille, Presses Universitaires de France, 1977

Ion Purcariu, Mathematics and Insurance, Economic Publishing House, Bucharest, 1994, p. 291-299.

St. Gheorghe, Market economy, the regularities and mechanisms, Inter-Media Publishing House, Bucharest, 1992, p. 218-221.

Paul Halpern, J. Fred Weston, Eugene F. Brigham, Managerial Finance, Economic Publishing House, Bucharest, 1998, p. 482.

V. Cornescu, Gh. Crețoiu și I. Bucur, Economics, Actami Publishing House, Bucharest, 2001, p. 76-78.,

V. Giard, Gestion de production economique et prise de decision, Revue Francaise de gestion, janvier-fevrier, 1988;

French Ministry of Equipment, Transport, Housing, Tourism and Marine Affairs, Department of Economic Affairs and International Financing infrastructure and municipal services. The use of public-private partnership and the French experience in the world, Publishing Ministry of Administration and Interior, Bucharest, 2004, p. 136.

Explanatory Dictionary of Romanian language, Romanian Academy Publishing House, Bucharest, 1975, p. 809 and 480.